



City of Flagstaff
Sewer Master Plan
CIP

Table 5- Sewer Collections Capital Improvement Program Project Details

Funding		Project Description	Justification/Trigger	Quantity Diameter(in.) Length(ft.)	Total Project Cost	Ranking			
Growth/ Capacity	O&M/ Rates					Priority	Council Goals	Criticality	O&M
0	100	<u>Annual Sewer Replacement Program (One Mile)</u> Sewer Main -Various streets (To be prioritized based on system benchmarking)	Aging infrastructure, Condition, High Maintenance, Serve In-fill Development, Council priority	8-15 5280/yr (10 yrs)	\$14,000,000	1			
40	60	<u>Flagstaff Interceptor</u> (Butler to Wildcat Hills WWTP)	Aging infrastructure, Condition, High Maintenance, Serve In-fill Development, Council priority	42 22,180	\$11,090,000	2			
0	100	<u>Aging Manhole Rehabilitation and Replacement</u> (To be prioritized with previous studies and system benchmarking)	Aging infrastructure, Condition Assessment, High Maint costs	92 MH per year (10 yrs)	\$4,500,000	3			
100	0	<u>West-side Interceptor Improvements</u> Replace 8" Bottleneck on Thompson Required to handle growth on west-side - WL Gore	Serve In-fill Development Serve New Development Undersized	18 1,980	\$500,000	4			
80	20	East Industrial (near North Park Drive)	Serve In-fill Development Serve New Development Undersized	18 1,154	\$290,000	5			
80	20	Sunnyside	Serve In-fill Development Serve New Development Undersized	12 452	\$65,000	6			
80	20	South Milton Road (at West University Avenue)	Serve In-fill Development Serve New Development Undersized	10 - 12 1,220	\$170,000	7			
100	0	West Route 66 (near South Thompson Street) (Developer - Aspen Heights)	Serve In-fill Development Serve New Development Undersized	18 - 21 5,217	\$1,460,000	8			



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80	20	Lower University Heights	Serve In-fill Development Serve New Development Undersized	12 2,197	\$310,000	9			
100	0	Ponderosa Parkway - McMillan Mesa	Serve In-fill Development Serve New Development Undersized	10 515	\$62,000	10			
80	20	East Railhead (near North Dodge Avenue)	Serve In-fill Development Serve New Development Undersized	15 396	\$79,000	11			
100	0	Presidio in the Pines Neighborhood (near Woody Mtn. Road)	Serve In-fill Development Serve New Development Undersized	12 353	\$50,000	12			
100	0	Upper University Heights	Serve In-fill Development Serve New Development Undersized	10 1,642	\$198,000	13			
0	100	<u>Rio Flood Control Project-Sewer Relocations</u> (includes two new Lift Stations)	Rio de Flag flood control project is a City Council priority		\$5,000,000	14			
				Total	\$37,774,000				

Table 6- Wastewater Treatment Capital Improvement Program Project Details

Funding		Project Description	Justification/Trigger	Quantity	Cost	Ranking			
Growth/ Capacity	O&M/ Rates					Priority	Council Goals	Criticality	O&M
0	100	<u>Wildcat Hill WWTP</u> Blower Replacement Purchase and Install Three New Process Blowers	Process Improvement required to meet ADEQ Consent decree Energy Efficiency Improvement	LS	\$1,500,000	1			
0	100	<u>Wildcat Hill WWTP</u> Digester Gas Piping Improvements Co-gen gas Piping and Equipment	Age, Failure/Repair Frequency, Condition, Continued operation of co-gen equipment	LS	\$340,000	2			
0	100	<u>Wildcat Hill WWTP</u> Reclaimed Water Pump Station & Piping Modifications	Age, Critical to Operations, Increase flow from WWTP to Buffalo Park Reclaimed Tank	LS	\$850,000	3			
0	100	<u>Wildcat Hill WWTP</u> Septage and Grease Receiving station - includes muffin monster, odor control, and heating	Age, Failure/Repair Frequency, Condition	LS	\$600,000	4			
0	100	<u>Rio de Flag WRP</u> Perform Condition Assessment of WRP Pumping, Mechanical, and Electrical Systems	Age, Failure/Repair Frequency, Condition	LS	\$75,000	5			
0	100	<u>Rio de Flag WRP</u> UV System Replacement	Age, Failure/Repair Frequency, Condition, Replace obsolete equipment	LS	\$1,400,000	6			
0	100	<u>Wildcat Hill WWTP</u> Add carbon storage and feed system, Micro C addition	Regulatory Permit Requirement	LS	\$318,000	7			
0	100	<u>Wildcat Hill WWTP</u> Develop Solids Handling Plan	Age, Failure/Repair Frequency, Condition	LS	\$300,000	8			

0	100	<u>Wildcat Hill WWTP</u> Repair Digester #2, Cover, and piping and coating repairs per inspection, view port	Insurance requirement-Repair of Digester#2 put on hold for SSB solids handling	LS	\$200,000	9			
30	70	<u>Wildcat Hill WWTP</u> Add Digested Solids Dewatering Equipment	Existing Solids Handling is under capacity, Critical to Operations, Regulatory Requirement-EPA permit	LS	\$4,430,000	10			
70	30	<u>Wildcat Hill WWTP</u> Add Third Digester and Replace Heat Recovery System	Age, Failure/Repair Frequency, Condition	LS	\$3,310,000	11			
0	100	<u>Wildcat Hill WWTP</u> VFD and Pump Replacements for Primary Effluent, Secondary Effluent, and FCC Pump Stations	Age, Failure/Repair Frequency, Condition	LS	\$300,000	12			
0	100	<u>Wildcat Hill WWTP</u> Perform Condition Assessment of Electrical and Control Systems	Age, Failure/Repair Frequency, Condition	LS	\$150,000	13			
0	100	<u>Rio De Flag WRP</u> Blower Replacement Purchase and Install Three New Process Blowers	Energy Efficiency Improvement Qualifies for APS Rebate	LS	\$1,400,000	14			
0	100	<u>Wildcat Hill WWTP</u> SCADA Improvements (\$75,000 annually for 10 years)	Age, Failure/Repair Frequency, Condition	LS	\$750,000	15			
0	100	<u>Wildcat Hill WWTP</u> Improve baffling and weirs at secondary clarifiers	Regulatory Permit Requirement	LS	\$480,000	16			
0	100	<u>Wildcat Hill WWTP</u> Add post anoxic zone (Related to Priority #17) (Requires supplemental carbon feed project)	Regulatory Permit Requirement	LS	\$2,152,000	17			
0	100	<u>Wildcat Hill WWTP</u> Add initial anaerobic zone (Related to Priority #16)	Regulatory Permit Requirement	LS	\$1,440,000	18			

0	100	<u>Wildcat Hill WWTP</u> Replace all three anoxic mixers on IFAS (Related to Priority #16)	Age, Failure/Repair Frequency, Condition	LS	\$140,000	19			
0	100	<u>Wildcat Hill WWTP</u> Replacement blowers for primary aeration Operational CIP	Age, Failure/Repair Frequency, Condition	LS	\$75,000	20			
0	100	<u>Wildcat Hill WWTP</u> Plant influent isolation valve and vault and actuator Add to Interceptor Project	Age, Failure/Repair Frequency, Condition	LS	\$275,000	21			
0	100	<u>Wildcat Hill WWTP</u> Rebuild top-end of Jenbacher engine unit on co- gen equipment (Priority #2 must precede this project). Operational CIP	Age, Failure/Repair Frequency, Condition	LS	\$260,000	22			
0	100	<u>Wildcat Hill WWTP</u> Replace activated carbon for odor control on primary and centrifuge air handlers Operational CIP	Age, Failure/Repair Frequency, Condition, (Standard WWTP Maintenance Item)	LS	\$140,000	23			
0	100	<u>Wildcat Hill WWTP</u> Odor Scrubber Media Replacement Odor Control Equipment on Grease Equipment	6-7 yr Age , Maintenance Undersized on Grease receiving station	LS	\$450,000	24			
0	100	<u>Wildcat Hill WWTP</u> Building Improvements -Admin building HVAC system replacement and control upgrade to include AC/Heat unit, motors, multizone actuators Operational CIP	Age, Failure/Repair Frequency, Condition	LS	\$250,000	25			
0	100	<u>Wildcat Hill WWTP</u> Plant HRS distribution system to include (7) pumps and motors, (6) inline expansion joints and 10,000 ft of 2" pipe. Add to Digester Project	Age, Failure/Repair Frequency, Condition	LS	\$310,000	26			
TOTAL					\$21,895,000				